



Legal Analytics 101

Class is in session: what is legal analytics, why do we need it and who does it benefit?



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Le gal technology traditionally referred to the application of technology and software to help law firms with practice management, document storage, billing, accounting,

and electronic discovery. Today, there is more to it. Technology in the legal world provides tools for clients to connect with lawyers, or even to complete legal matters, such as contract writing by themselves through “smart apps.” The latest use of computing power in the practice of law is the application of data science methodologies to legal documents. While the idea of employing algorithms and machine-learning processes to legal work dates back to the late 1950s, only very recently have the advances in artificial intelligence and programming made Legal Analytics, in its current form, possible.

What is Legal Analytics?

“The beginning of wisdom,” said the Greek philosopher Socrates, “is the definition of terms.” So, what IS Legal Analytics? Technically speaking, it is words that are transformed into numerical data, which, in turn, are used as a quantitative basis for decisions to be made by lawyers or other participants in the legal industry.

“Imagine Grammy has ten grandchildren who write her 90 letters,” says **Susan Navarro Smelcer**, Assistant Professor of Law at

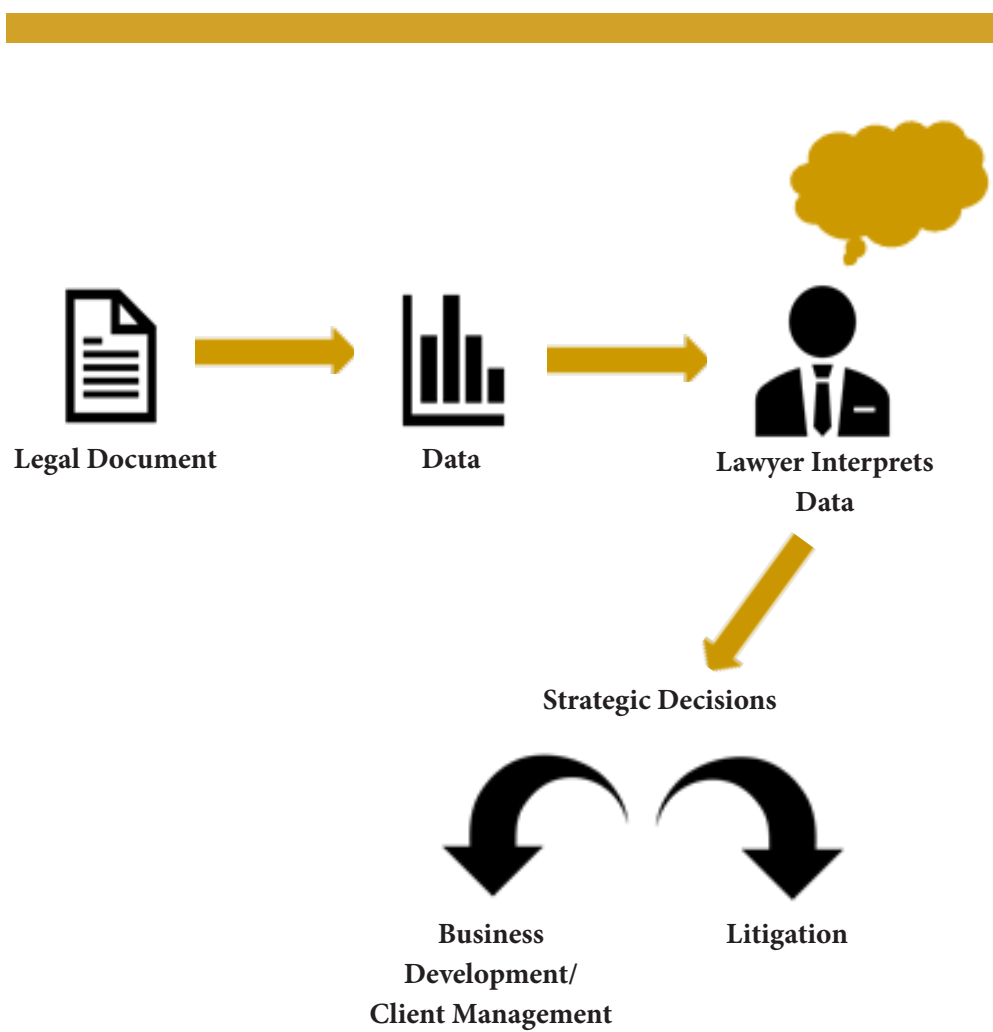
Georgia State University College of Law. “The grandchildren write about what’s new in their lives, about their schoolwork, their hobbies, and where they spent their most recent vacation. While she is interested in everything her grandchildren do, she needs only certain pieces of information on which to base her own actions: whom to send money, whom to ask for pictures, and so on.”

"Analytical tools could help her to organize the letters and conceptionally cluster the information contained in them," says Smelcer. Similarly, analyzing hundreds (or more) legal documents “can reveal patterns not apparent for the human brain – connections between words, combinations of words and phrases, and references - that help to extract rules from the unstructured, inherently messy legal language,” states Smelcer.

Wait a minute, I hear you cry, how can the exquisite writings originating in well-educated lawyers’ minds, their skillfully built argument structures peppered with wit, wisdom, and profound considerations, be reduced to a data cluster or even a mathematical formula? “The machines do not look at an individual document,” explains **Ben Chapman**, Executive Director of the Legal Analytics & Innovation Initiative at the Georgia State University College of Law. “Rather, they detect connections between many documents, similarities, and relationships that mean something. They do not spit out a judicial opinion,” he clarifies, “they create models that help predict a certain future outcome.”

Why do we need Legal Analytics?

Such quantitative predictions have value, e.g., for a law firm’s budget and staffing decisions and for calculating the risks of a matter. Legal Analytics is mostly Litigation Analytics. It is used to assess the time frame, potential outcome, and costs of a lawsuit; to predict the judges’ behavior based on precedent; and to evaluate and select credible expert witnesses based on depositions, trial transcripts, as well as jury verdicts and settlements. In addition, it is also used by law firms to analyze their competitors and adjust their resources and strategies accordingly.



What can Legal Analytics do and NOT do?

Machine Learning classifies decisions as raising a particular legal issue and helps with retrieving similar cases. The Lex Machina program that was developed at Stanford University originally predicted outcomes of Intellectual Property claims based on a corpus of all IP lawsuits in a ten-year-plus period. It then analyzes certain features of the cases such as the identity and behavior of the participants of the suit. The program also reads and organizes data to help users gain “insights and strategic advantage” in federal antitrust litigation, comments **Rachel Bailey**, Legal Data Expert at Lex Machina. Ravel, another Legal Analytics program, creates visual maps of

cases, so-called network diagrams. Citation networks include the judicial history – which cases or arguments did the judge find most persuasive, what were the rulings, and what specific language did she use. Statutory networks detect relations among entities referred to by or subject to a particular regulation across multiples statutes and jurisdictions. Social networks examine communication relations among entities, e.g., senders and receivers of corporate emails, which is predominantly used in E-Discovery. Legal QA: Modeled after IBM’s “Watson,” the Ross program searches large text collections to locate “snippets,” i.e., documents, short phrases, or sentences that directly answer a user’s question. Like Watson, Ross learns from user feedback.

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None of these methodologies include the analysis of the legal merits of cases - yet. Computer programs cannot read as lawyers can. They lack background knowledge; including general knowledge about the world, human psychology, and regulated domains. Computers also cannot read statutes and extract legal rules in logical form or "implicit" information. And while they can compare contracts to identify similarities and differences, they cannot explain them. This makes it rather obvious that Legal Analytics is a tool that does not replace but rather complements traditional methods of practice. Attorneys shift from executory to supervisory rules: Instead of researching and reading the cases themselves, they will now use their time to interpret the analytical findings and draw inferences from the extracted information. Chapman calls this "supervised machine learning," adding that, "80 to 90 percent is data clean-up and getting the data ready to be analyzed."

Unfortunately, the legal industry is slow, if not adverse, to change. According to a survey by RELX Group polling 1,000 U.S. senior executives across the health care, insurance, legal, science, banking industries, and government regarding the use of big data in some form, law finished last among industries and just ahead of government. Many lawyers suffer from severe "technophobia." Only 44 percent of the law firm leaders surveyed by RELX Group said they offer employee training on

big data, artificial intelligence and machine learning. Law also lagged in its use of AI machine learning and automation adoption.

Who needs Legal Analytics?

Simply put, everyone needs Legal Analytics. Despite functional and practical barriers, there is no way around Legal Analytics. Law firms have to adopt an interdisciplinary approach because their clients embrace change and innovation. "Data is critical to rapid, informed decision making," states **Mark A. Cohen**, business consultant and Distinguished Fellow at Northwestern University Pritzker School of Law. "It is also essential to streamlining internal operations, identifying and mitigating risks, gauging performance and reward, and fashioning individual and collective benchmarks from which to measure and catalyze constant improvement."

Using commercial Legal Analytics products such as the new Context® by Lexis, might not be enough. "Commercial products are a black box," says Chapman. "The issue is: How much do you trust it?" Experts call analytics a "critical competency" of any future lawyer. "If lawyers don't have the capacity to critically evaluate insights provided by data or the platforms crunching and producing the data, lawyers are ceding control over a major part of their jobs and obligations to clients," warns **Anne Tucker**, Professor of Law at

Georgia State University College of Law. "At the core of the work of being a lawyer is problem-solving. Computational thinking and critical analysis are problem-solving tools that we think tomorrow's lawyers will need." Tucker and her colleagues are building the curriculum, courses, and events of their Legal Analytics & Innovation Initiative on their vision of "data fluency." Law students learn basic computer coding, text mining, natural language processing, and machine learning, and apply their newly acquired skills in interdisciplinary labs. "Thinking like a coder, i.e., breaking problems down and using appropriate tools, gives you a competitive advantage," says Chapman. "You can make your partner smart - and yourself indispensable."

For further reading into legal analytics, here are some suggestions:

Richard Susskind, *Tomorrow's Lawyers - An Introduction To Your Future*
OUP Oxford, Second Edition (2017)

Kevin D. Ashley, *Artificial Intelligence and Legal Analytics: New Tools for Law Practice in the Digital Age*
Cambridge University Press (July 10, 2017)

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